RAHMANN G & AKSOY U (Eds.) (2014) Proceedings of the 4th ISOFAR Scientific Conference.
'Building Organic Bridges', at the Organic World Congress 2014, 13-15 Oct., Istanbul, Turkey (eprint ID 23867)

Bridging field experience and academia: an international agroecology doctoral programme

LENNART SALOMONSSON[1], MARGARITA CUADRA[2], GIRMAY TESFAY[3], CHARLES SSEKYEWA[4], BRYAN MENDIETA[5], CHARLES FRANCIS[6] GEIR LIEBLEIN[7], TOR ARVID BRELAND[8]

Abstract

Distance between academic study and farmer practice is especially challenging in countries where limited resource farmers dominate agriculture. Doctoral research in holistic and systems strategies to solve practical challenges should be available for graduates of current agroecology MSc programs and for other professionals in development. Many mid-career specialists have superb field experience but lack opportunities for efficient and relevant doctoral studies that will prepare them to deal with complexity and uncertainty in today's agriculture. An international agroecology doctoral program is designed to meet this need, providing integrated education in production, economic, environmental, and social dimensions of food systems. Distance courses, regional workshops, and electronic networking will bring an international group of highly qualified agroecologists as instructors and research supervisors to help university, government, and non-profit employees gain a doctoral degree.

Introduction

Students interested in advanced agriculture and food systems education using holistic, integrated approaches seek opportunities for interdisciplinary doctoral research. Advisors are geographically dispersed and few universities have capacity to offer courses and supervision. Agroecology study programs in Ethiopia, Uganda, Nicaragua, and Sweden, funded by Swedish International Development Agency [Sida] in SLU Global are planning to meet this need. An international network of researchers, advisors, and instructors from Europe, Africa, and the Americas will provide courses and dissertation opportunities. Using distance courses, regional workshops, and electronic networking, an international faculty will offer education and research supervision for talented candidates in national research programmes, universities, aid and non-profit agencies, and private industry to achieve a doctoral degree.

Planning methods

To mobilize human intellectual resources and plan for collaborative advanced education activities, a project Agroecology in Practice [Agroecoprac, www.agroecoprac.org] that links universities in Sweden, Uganda, and Ethiopia has established new MSc study programs in three countries. An advanced program is available in Nicaragua. Study programs are built on the foundation of agroecology (Altieri 1983) often defined as the *ecology of food* systems (Francis et al. 2003), and variously considered a science, a practice, or a social movement (Wezel et al. 2009. Practical learning in the analysis of agroecosystems (Rickerl & Francis 2004) is emphasized, along with building capacity for catalyzing responsible change (Lieblein & Francis 2007; Lieblein et al. 2008).

Building on the momentum in these degree programs, an initiative to extend the concept to study at the doctoral level was explored with interested professionals in a planning workshop in March 2013 in Malmö, Sweden. Fifty educators and administrators from twenty-five universities and fifteen countries in Africa, Asia, Americas and Europe met to define priorities and set in motion an action plan for a doctoral study program in agroecology and capacity building. Through facilitated large and small group workshops, the participants explored the priorities for the study program, and sought to identify the most important action steps that are needed in nine categories [adapted from Salomonsson et al., 2013], of which six are described. The results and directions established in each of these priority areas are discussed, together with progress toward future implementation of the project (see Salomonsson et al. 2013 for complete report).

[1] Swedish Agricultural University, Uppsala, Sweden, Email: Lennart.salomonsson@slu.se
[2] Swedish Agricultural University, Uppsala, Sweden, Email: Margarita.cuadra@slu.se
[3] Mekelle University, Ethiopia, Email: girmay_tesfay@yahoo.com
[4] Uganda Martyrs University, Uganda, Email: cssekyewa@gmail.com
[5] National Agrarian University, Nicaragua, Email: mendieta@una.edu.ni
[6] Norwegian University of Life Sciences, Norway, Email: charf@nmbu.no [contact person]
[7] Norwegian University of Life Sciences, Norway, Email: geir.lieblein@nmbu.no
[8] Norwegian University of Life Sciences, Norway, Email: tor.arvid.breland@nmbu.no

Results

Educators met in alternating activities of individual discovery, interaction in small groups of three to five people, and general plenary discussion sessions to explore the most important areas to consider and steps to take in implementing the study and degree program. The following ideas were developed:

1. Selecting students

One of the first critical steps is careful selection of those student applicants who have the greatest potential to make meaningful contributions to future farming and food systems. Success of PhD graduates will depend on motivation and creativity that should be assessed carefully, in addition to using current admission requirements including certificates of prior degrees, transcripts of academic grades and/or placement, and letters of reference. Potential students who rank high on several important criteria should be those admitted. Among these criteria are:

- Capacity for becoming sophisticated communicators with multiple audiences
- Understanding history of technology and sciences, plus technical competence
- Interest in ethics and values as integral to study of systems and working with people
- Curiosity about multiple world views
- Empathy and respect for farmers and other stakeholders
- Proficiency in more than one language, including English
- Resilience in thought, decision making, and actions
- Potential to develop general and specialist skills, become creative and proactive
- Strong practical problem orientation and problem solving skills
- Resilient and flexible, open to change and new information

2. Building supervisory capacity in academic advisors

We consider it essential to carefully consider the capacities to be developed in an ideal supervisor, some of which may be additional to those needed for advising students in conventional and well-defined disciplines in the academy. Among ideas collected from the workshop participants, we consider it important for supervisors in agroecology to have:

- Agroecology background and/or PhD degree in a relevant area
- Capacity to move outside personal area of expertise and work in teams
- Creativity and willingness to take risks
- Ability to create innovative social situations and learning landscapes
- Willingness to lead a group of supervisors on a student's committee
- Potential and interest in reflection and innovation in the learning process
- Respect for intergenerational communication and equity issues
- Network of clients in farming and/or food systems and good working relationships
- Fluency in English and other language(s) in which the PhD thesis will be written
- Potential to reflect on personal paradigms and practices
- Flexibility, resilience, innovation, and capacity for stimulating students
- Interest in broad learning landscape at different levels of scale
- Knowledge of systems and integrative sciences, biological/ social science methods
- Sensitivity to gender, economic, racial, cultural, and background differences

3. Identifying the core principles and needs of students

The Agricultural Sustainability Institute [ASI] at University of California – Davis recently elaborated a set of operational principles that can be used as a foundation for establishing agroecology principles for the new doctoral program. Among those identified are:

- Practicing sustainability**:** using sustainable practices in all operations and actively striving to embody core values in all program planning, including building community and promoting respect for the dignity of all people.

- Building legitimacy by spanning boundaries across disciplines and countries, pursuing science in the public interest, operating with historical awareness of the roots of agroecology, and seeking consensus while respecting differences.
- Creating useful education by communicating for responsible impact, integrating knowledge and bridging academia with stakeholder experience and interests, maintaining commitment to experiential learning, and fostering a learning organization.
- Striving for credibility by setting a forward-looking educational agenda, maintaining a multidisciplinary balance, seeking scientific integration and synthesis, and fostering open inquiry by instructors and students in their post-graduate studies. [modified from principles of ASI: htttp://asi.ucdavis.edu/about/ASI.operational.principles.pdf/view]

These principles provide a starting point for establishing the principles for the agroecology doctoral study program, and they can guide our quest to meet the needs of students.

4. Designing joint courses that build capacity of students for responsible action

Distance and blended courses will be developed and made accessible to students in the agroecology doctoral program, and completing course requirements through individual and team learning activities will require well-organized networking by instructors and the overall program planning group. To the extent possible, we will build on existing classes and infrastructure of participating universities, as well as develop new courses where needed. These will be open to other students in collaborating universities, in part as a means to recruit agroecology doctoral students to the program.

5. Developing a resource network and institutional collaboration

Most participants in the planning workshop are well known to each other through prior collaborative research or education activities. With the growing interest in agroecology there are courses and BSc study programs in many universities, and it is essential to survey what is available and assemble a list of key potential participants in a global agroecology network that can support the new doctoral students. We expect that this roster of experts will provide ideas for students to choose supervisors and members of their doctoral committees, which can now come from the network in addition to their home universities. It was recommended that we develop a keyword search system for accessing gray literature resources in agroecology, since much of this is not easily found through conventional search strategies. A similar directory of advisor expertise that is searchable will help students locate people most appropriate to support their dissertation research.

6. Establishing key sources of funding for students and faculty mobility and research

Initially we will explore continuing support from SIDA and SLU as these organizations were instrumental in catalyzing the initial organizational meetings. A five-year proposal is under development. Yet success in the program will depend on financial support for a part-time coordinator at each of the collaborating universities, funding for coordination meetings to supplement what can be done on line, and especially funding for doctoral students who will need to meet their advisors, participate in regional workshops and team learning activities, and support their field research in the university of choice. Broader sources of funding from E.U., U.S. Department of Education, other national funding sources in the North, and private foundations will be essential to success of the programme.

Conclusions

An agroecology doctoral program that also includes capacity building as an invaluable dimension for future leaders in agriculture and food systems is moving off the drawing board and into action. There have been numerous discussions, extensive correspondence and visioning about how the program could be organized, and a major workshop with key potential players from universities. Success will now depend on identifying additional start-up financial support and investment of time and energy by the planners who are convinced about the importance of this practical advanced education. An agroecology doctoral study and research program will serve to bridge the gap between what is currently offered in academic universities and what can be learned from farmers and other professionals in the food system. This will provide opportunities for continued studies by graduates of the agroecology MSc programs, and for mid-career professionals in government, university, and non-profit organizations.

References

Altieri MA (1983): Agroecology. Univ. California Press, Berkeley, California, USA.

Francis C, Lieblein G, Gliessman S, Breland TA, Creamer N, Harwood R, Salomonsson L, Helenius J, Rickerl D, Salvador R, Wiedenhoeft M, Simmons S, Allen P, Altieri MA, Flora C, & Poincelot R (2003): Agroecology: the ecology of food systems. Journal of Sustainable Agriculture. 22(3), 99-118.

Lieblein G, Breland TA, Salomonsson L, Sriskandarajah N. & Francis C (2008): Educating tomorrow's agents of change for sustainable food systems: Nordic Agroecology MSc Program. Journal of Hunger and Environmental Nutrition 3(2), 309-327.

Lieblein G & Francis C (2007): Towards responsible action through agroecological education. Italian Journal of Agronomy/Rivista Agronomia 2, 79-86.

Rickerl D & Francis C (eds) (2004): Agroecosystems analysis. Agronomy Monograph No. 43, American Society of Agronomy, Madison, Wisconsin, USA.

Salomonsson L, Cuadra M, Leiblein G, & Francis C (2013): Agroecology cooperative doctoral education programme. Proceedings of a Workshop in Malmö, Sweden. 18-20 March 2013. Full report available:http://edu.entryscape.com/apps/index.html#context=2&entry=149&view=default

Wezel A, Bellon S, Dore T, Francis C, Vallod D, & David C (2009): Agroecology as a science, a movement or a practice. Agronomy for Sustainable Development 29(4), 503-516.